

On some recent advances in the competition of capitalists

Digitizing the circuit of capital

A few years ago, capitalism was reinvented in California's Silicon Valley. China has been following suit and can now show a thing or two about the "artificial intelligence" business. So as not to be left behind by this epochal progress, Berlin's politicians are vigorously trying to "digitize the economy."

How this is actually advancing capitalist competition is easily overlooked. The advances specifically involve:

- the merchant trade,
- the process of productive value creation,
- the capital advance,
- the extent and nature of wage labor.

I. $C' - M'$:^[*] The link between capital and end user

1. Facebook and the like: Perfecting marketing to the customer

The community of users fooling around in social media see themselves as authors of the communication taking place there, and are quite mistaken about this crucial aspect. With their lively exchange of opinions, pictures, and whatever, they are really the appendage of commercial interests. They are serving capitalist producers and merchants in their effort to advertise their goods, get feedback on whether and how their advertising is being received, make it more successful by personalizing it, and, in the end, take control of customers' needs, i.e., form them at all levels to fit their own sales needs. The big social media companies serve this business interest by investing a lot of money in a constantly available, universal intermediation service that is free of charge for users — this could give them pause for thought — and that, at every use, transports advertising offers and collects feedback on who might have a commercially exploitable desire or be receptive to one yet to be created. Social media companies have this paid for out of the advertising budget of their capitalist clientele.^[1] Since this aid to selling is concentrated in the hands of a small number of companies present basically in every corner of the globe, i.e., due to its enormous reach, it has become a business making the main player one of the biggest major capitalists in the world. Its capital advance — also for buying up smaller competitors — is considerable; so is the profit it gets out of commodity traders all over the world.

2. Google: The global shopwindow

Talking about the world market, that is something industrialists and trading companies have managed over the last century and a half quite well on their own, without any internet or search function. But sharp telecommunications experts discovered fairly quickly that the international electronic network the US created in the interests of being able to wage a nuclear war until America wins also had something to offer companies out to exploit the world population's ability to pay. They are the ones to thank for the bourgeois private sphere now being pervaded with omnipresent advertising on little screens, see subsection 1 above. And this has gone hand in hand with the spread of a total — global and ubiquitous — shop window where the gigantic collection of goods that make up the material wealth of the capitalistically producing world, and that need to be turned over day after day, lie ready with price tags for customers all over the world to acquire. This is what Google has based its business on.

The firm became big with its search engine. Whatever people are looking for on the web it will quickly find for them. Its search algorithm is constantly scouring the entire web, classifying and indexing myriads of websites and showing them to the general public on request; for retrieving information it offers the web browser (Chrome) as well. Just like its social media colleagues, it operates data storage, data lines, even lays transoceanic cable itself, and so on. And just as with Facebook & Co, this service does not cost the user community anything. It is paid for once again by the commercial beneficiaries, who seize this great opportunity to present themselves and their range of products to a limitless number of customers they could never reach on their own. The search-service provider allows the companies to be found, even listing them ahead of other advertisers for an extra fee. The considerable sums that Google earns this way are evidence of the business world's absolute, boundless need to find customers — and, on the other hand, of Google's success in making itself practically indispensable to the business world. So every new customer brings in new revenue, and what makes it really lucrative is that this doesn't require any new expenditure each time.

3. Amazon: From resourceful bookseller to ubiquitous mail-order company, setting all kinds of examples

For the internet-based section of merchant capital, it is consequent and logical to go from a universally active search and intermediation function to a globally active mail-order business encompassing all the goods that exist. So this is not a big step, at least no bigger than going from quite incidentally imposed personalized advertising to customer contact via search algorithm, or from search engine to advertising. To implement this step in a way that goes beyond merely mediating contact, however, it is necessary to stockpile goods and build a logistics network, requiring investments that are initially of a daunting order of magnitude. It is therefore no accident that this step forward was tackled by a market segment offering a particularly good prerequisite for trading by means of electronic tokens. As a bookseller, Amazon's business already

consisted in selling a commodity with an exchange value composed of the fee for the one-time effort of writing a text and the production of a quantity of salable material carriers of this mental effort. The firm discovered, or at least consistently made use of, the opportunity the internet offered to get rid of printed matter and its costs. Once the goods are digitally reproduced and held ready to be “picked up” as it were by telephone from an in-house data storage facility, they can be delivered without any new expenditure to any buyer willing to pay for them who has a suitable reading device at his end of the network. This saves the customer having to set up a library and the article is at the same time perfectly suitable as merchandise of the traditional kind. When the book-rights holders insist on still being remunerated for their intellectual product by getting royalties for each copy sold, Amazon counters them with its might as an increasingly indispensable broker. And quite automatically, this business based on computing machines that are connected to the internet and filled with all kinds of useful stuff and nonsense has already enabled the company to achieve what is now universally admired under the name of *Cloud*.

Amazon has thereby opened the door to inexpensively multiplying the commercial use of all the intellectual property that in the dim and distant pre-digital past only found its paying customers when attached to material sound and image carriers. There are various streaming services active in this area, selling the enjoyment of art in the form of an endless loop that can be called up at any time. They are not only making records and movie theaters superfluous, but also accumulating enough revenue to not just market ready-made entertainment but to branch out into producing it themselves. Netflix, for example, which started off sending DVDs by mail, now competes with established film studios. And for marketing its products worldwide it is in turn making use of Amazon's now enormously expanded data storage facilities, the cloud.

Of course, this does not close the circle by a long shot. Alongside its book trade, both tangible and electronic, Amazon has gradually gone into the mail-order business selling all kinds of material products and thoroughly shaking up the world of intermediate and retail trade using the internet as an ordering platform. With its worldwide branches, the company acts as a warehouse, supplier, and sender for any producer or dealer of goods who is willing to hand over the required share of its sales proceeds. It also itself sells anything that can be packed into cardboard boxes, to any place where someone can be found to deliver it. And what works in its specific way with books and ink cartridges of course works just as well with services of the most diverse kinds. For marketing car services or vacation rentals, for brokering love affairs to consumers ready to pay, or for finding and filling jobs there are countless specialized platforms alongside Amazon. They work to make their algorithms more and more effective, earning money on the fee they charge the business customer, the end customer, or both, according to how much their offer is used.

Obviously, in the area of digitized mail-order trade and intermediation, the payments to be made will also be collected right away via terminal and internet. But of course it's

only logical that merchant capital's business-minded IT experts should turn their attention to that final act of contact between capital and customer that fulfills the purpose of all advertising and marketing skill: payment. This makes sense if only because established money dealers have themselves long since discovered how useful tokens — which can also be represented and transferred perfectly well electronically — are for transferring abstract wealth from one owner to another, and have made the corresponding virtual transactions their profession. They now face competition from IT companies that reproduce the function of the credit card with their computation steps, on their data repositories, and by retrieval on a terminal. Conversely, banks are happy to take up the offer from Amazon and others to store customer data in the latter's mainframe computers — their cloud — and process payment transactions there. This saves the banks much of the expense — for branches, staff, and their own electronic infrastructure — that they incur in order to make money on the expense for the final transformation of goods into money that they save the business world.

4. Apple: Bourgeois existence in a mobile terminal

IT companies' friendly takeover of every contact between capitalist sellers and end users is based on the vast majority of ready consumers being equipped with a handy portable device for taking part in the internet around the clock. Conversely, this takeover turns out to be a considerable productive force for capitalist trade in this commodity. After all, every new service needs to be available on the device without making it more difficult to use. So the old mobile phone has been upgraded to a smartphone that accompanies its owner through a complete bourgeois existence as a constantly reachable consumer, as a social being defined by social media — and also as an employee who can be reached, i.e., made use of, at any time, but that belongs in another chapter. So the thing largely makes merchant capital's dream come true that people are simply the personification of ability and willingness to pay.

However, because users also exist as proud individuals, they see the matter the other way around, choosing to regard the world as it is presented on their smart device as their own personal resource. So they are prepared to pay for the thing, even a more expensive new one at fairly short intervals, when the number of offered services has grown, making the existing device outdated and a new one necessary for participating in society in keeping with the times. With the high development costs the producers invest in their business, and thanks to the patents that protect their resulting intellectual property from the competition, they make it so difficult for each other to survive that they can be counted on one hand — until some Chinese company with particularly cheap production costs or Microsoft with a whole lot of capital and its own software and hardware breaks into the oligopoly of established companies...

II. The costs of capital's regime over production

1. Capitalist quality control

Capitalist businesses — this is nothing new — use their regime over society's labor and its productive force for their profit. No product leaves the factory, no order is processed, without the expected money earned exceeding the money spent. That, at any rate, is the unequivocal criterion for the quality control the production process undergoes in capitalist companies. This process must create new, additional property in the form of money; not only a lot of it, but in due proportion to the expended capital, for this is the measure of its productivity.

This results in specific requirements for arranging the production process, which is nothing new either. Both the technology applied and how it is employed are affected. Machines and reactors, labor and materials, all have to be used in a cost-efficient way. Workplaces have to be set up that combine maximum output performance with minimum payment. Interruptions in the work flow are strictly to be avoided, whether they are man-made or to be blamed on the market, the dependence on suppliers, etc. After many decades of capitalist progress, industrialists have achieved a lot for their concerns in every conceivable respect; fully automated production lines, for instance, as well as an in-house bureaucracy that has to manage far more than just the profitable perfecting of production technology. With time-tested and increasing routine, it controls company operations *as a whole* from the cost point of view, organizing them to maximize returns, expediently coordinating accounting and production control, and doing whatever can be done to augment the private property that dominates the whole system. The only catch is that all this costs money. It is not only technical progress that comes at a price: implementing it according to plan so that it increases profit is a task that can only be accomplished by a smart company bureaucracy as a quite separate expenditure. This, under the rules of capitalist arithmetic, reduces the capital productivity that it is vital to ensure and increase. That is bad.

Capitalist businesses have of course not been idle here either. In the past decades, they have constructively cooperated with computer companies and software specialists to technically upgrade this traditionally personnel-intensive area as well, thereby cutting down on personnel, i.e., capitalistically rationalizing such departments. The entire capitalist procedure — organizing the manufacturing process so as to save costs and linking it to what the market demands or what the company demands from the market — has been scoured by experts for stereotypical patterns across companies and even industries. After generations of foremen and managers have developed and established standards of planning, management, control, etc., modern experts have naturally found what they were looking for. They have brought the capitalist regime over business operations into the form of complex usage instructions and processed these into sequences of computing operations that automatically build on each other and control each other: into computer programs, which can be used any number of times, on the one hand, and be tailored to particular requirements, on the other. Hardware, and software developed in-house or purchased from IT companies active in the field, reduce personnel costs, make the necessary bureaucratic work more effective, and thus save on

capital advance. But of course they cost money, and the expense is constant, because rapid progress always quickly erodes the cost advantage achieved, both when it comes to collecting the data important for capitalist quality control and processing it into more effective software, and when it comes to the technical equipment that requires.^[2]

Consequently, the business world is very receptive to the offering the big IT players have developed on this basis: *they* will take care of all that. Choices include: “Platform as a Service” (a company buys access to external hardware and software in order to develop its own specific applications with ready-made modules), “Infrastructure as a Service” (a provider rents out servers, networks, data storage, operating systems, whatever one doesn’t want to buy oneself and may soon have to write off again), or “Software as a Service” (the customer no longer has to buy, install, and update needed programs but instead accesses the computing operations required for running the company that are kept available and constantly updated by a provider).

Of course, this also costs money — first and foremost a considerable capital advance on the part of the providers. They have to set up and maintain a voluminous technical infrastructure, renew it as needed, and expand it in line with the progress taking place in their business. They have to keep the desired software available, maintain it, and perfect it in line with customer requirements or so that it will make old and new customers willing to pay for it. They have to (unless customers do it themselves) set up and constantly maintain interfaces with the data systems of the companies whose bureaucracy they are partly or completely replacing with their services. All this they charge their customers for, of course. And they of course charge enough to make sure their own capital outlay pays off for them, so that customers are not spared having to calculate whether and how the productivity of *their* capital is being improved by reducing costs and increasing planning and management efficiency as promised. The capitalist calculation can work out for both sides because the IT companies count on amortizing most of their advance over a number of customers that allows them to make the required cost-covering and profitable price per customer lower than what a customer would otherwise have to pay himself. Billing is based either on the pay-per-use model by the exact second, megabyte, or cent, or on a fixed period of time with a flat fee. So the service providers’ business success depends directly on the number of their customers; only if this number is high will the enormous capital advance they definitely have to make pay off. Which is why their capital advance also includes considerable personnel expenses for acquiring customers. Needing to be big is consequently an essential part of the business model of these companies, which find it humorous to locate their services in a heavenly cloud. Their goal is complete worldwide presence, their perspective a global monopoly — ideally there would be *one* cloud, namely theirs, for *all* needs. In reality there is a quartet of three American providers and one Chinese one currently dominating three quarters of the global cloud business, with Amazon Web Services alone at the top. They are making pretty good money — on their contribution to increasing the capital productivity of their business clientele.

2. The value-creation network crossing the boundaries between firms, industries, and nations, and its contradiction[3]

Having business operations controlled by programs available on the internet and wholly or partly maintained and rented out by IT concerns includes the offer of being networked with suppliers and customers all over the world, including clients that want to have machines delivered, parts of their production set up, their machinery serviced, and with firms that provide such services for one's own business. This networking, too, is done in the form of usage and procedure instructions that are formulated in sequences of computing steps and processed automatically. This is another advance that companies can hardly ignore. It ensures that everything they need is delivered aptly and on time, that their products are promptly bought, that the mutually dependent production processes in various plants are coordinated in their timing and technology, especially in view of the technological and organizational innovations that are constantly occurring. It protects them from all kinds of risks, delays, and mistakes of their own or others. It frees their business from complications and obstructions of a technological or logistical nature. Ideally, it gives them on balance the advantages of a planned division of labor beyond the bounds of their own operations, and so increases the productivity of their applied capital. It in fact tends to make capitalist competitors into components of a self-regulating, integrated value-creation process.

That, of course, is also the catch with this wonderful advance. When firms engage in an automated division of labor beyond the confines of their own business, they are not aiming to collaborate, after all, but to increase the productivity of their own capital. They are using their capitalist capacities, their productivity, the importance of their particular operation for the overall process — which is explicitly about *value creation* of course — to *compete* with their partners, and against any firm out to take their place in the productive network, for *their share* of the wealth in monetary form that is finally obtained. More precisely, they are competing to increase their share relative to their own expenditure — that is the only thing that makes the thing an attractive offer for capitalists in the first place. What is decisive for *that* purpose is to be able to determine the overall process that each company is acting as part of. To gain that power the company deploys its specific potential as a *weapon*. On the other hand, this can only be done if important parts of that potential are ascertained and generalized across firms, even though in a world of capitalist competition they count as highly sensitive trade secrets, involving all sorts of internal matters from asset balances to operating procedures, from patented processes to managing the political and business landscape. This lies in the nature of productivity-enhancing cooperation; whatever links via the internet it requires have to be available and usable for all participants at any location; and an individual company's actual performance must be disclosed so that processes and control mechanisms can always be updated to be most effective.

Contributing something in order to profit from what others are contributing, and doing so without relinquishing exclusive control of one's own productive forces — this is the competitive situation that companies are faced with. It is not really new, but has been greatly intensified by the digitized cooperation connection. It's not just a struggle of each against all. It's also quite separately about the power of some companies — mostly in the IT sector, but also some "classic" technology companies — that organize and are key for maintaining the networking, i.e., that establish it everywhere, in relation to those companies that want to profit from this linkage without subordinating themselves to an external regime. One of the prominent disputes in this clash of interests is over the practical control, and commercially exploitable ownership, of the company data that necessarily goes into the value-creation process algorithm and logically forms the basis for further developing both the platforms where individual competitors cooperate and the methods they use to do so. This data is also the basis for developing new functional chains that might be good for making money. Not only in these areas, but quite generally, the services associated with productively networking companies give them a special competitive relationship to the providers, making their service into something like a regime — in networked capitalism, providing the service means having control. What one side is pursuing as an ideal is what the other side is fearing will ruin it: that the IT service provider controlling the value-creation chain should skim off the value and leave the chained-up producers to just implement a predefined production process determined by others.^[4] The reality is a constant dispute about who profits most from this advance. And that is exactly how the advance takes its course.

3. The *faux frais* (incidental expenses) of running society, or: The smart nation

It is not only its internal bureaucracy that burdens a capitalist company and reduces its productivity. Equally necessary — even if the dominant class is reluctant to admit it — and at least as costly for the individual company are the unproductive costs that capitalist production incurs as a result of the necessities of public utilities and the state's running of society. This is even more or less how bourgeois politics itself sees the expenditure for the everyday exercise of state power — as indispensable and valuable, on the one hand, and a burden on the economy so badly in need of growth, on the other, all in all as "*faux frais*."

So it is most appealing when companies in the IT sector offer to use their proven expertise to cut costs and increase efficiency in this sphere as well. When they take a look at the bureaucratic organization and control of societal life, as well as the techniques used for seeing to recognized general needs, it is not difficult for them to identify arrangements of similar types and stereotypical behavior patterns that can be mapped into computing steps and managed by computing machines. There has long been hardware and software for controlling all kinds of areas of life more or less

automatically, from the water supply through public health to dragnet policing. This is a good basis for an offer to offload the non-material, organizational side of public service to a cloud on a pay-per-use model. And the authorities are even more interested in cooperating with the most advanced IT companies now that the technology of automated, self-perfected pattern recognition known as “AI” opens up undreamed-of new possibilities for monitoring and influencing the body politic. Not only does this make the conventional business of administration cheaper, i.e., ruling less expensive, it also makes it financially feasible to subtly get at citizens in their various politically relevant roles and functions — as drivers, medical cases, extremists, etc.

What is quite clear is that the bourgeois state perceives this branch of business as a positive challenge that it must foster and must face.

4. Private consumption as the last act in the capitalist production process

IT companies try out the art of networking interdependent functions for a fee on the bourgeois individual as well; not only in his capacity as an advertising and mail-order customer, which the suppliers of goods are willing to pay for, but also as the end consumer whose consumption is needed for the capitalist production and sales process to reach its goal. The inventive experts in the industry tackle the smartphone user’s everyday life, which they have already exposed quite well with their social media, feedback from their search engines, and readily available mail-order statistics. Their concept is pattern recognition through artificial intelligence, their idea is predictability, and their clear goal is to steer individual behavior. They mercilessly bring to light that this everyday life is largely composed of stereotypical behavior patterns, which, much like automated production processes, can be put into the form of mathematically formulated instructions. And they work to turn that into something salable in this sphere as well.

The main idea is to break down the everyday consumption of goods into a material component and the process of usage and consumption as such, so that *both* can be sold, no matter whether separately or by the same supplier, in much the same way as telephones versus phone calls have always been. This has paved the way for a whole lot of apps whose activation can be sold in addition to the smartphone that they are housed in (and that can in turn no longer even be sold without this function). But the aspiration is greater: to make all kinds of consumer goods “smart,” i.e., to control their operation by means of an algorithm to be activated via the internet. In other words, each item should get a service attached to it that can be called up any number of times and is effectively needed to complete the product; each time possibly entailing a small fee. After all, this way the device is — at least ideally — saving its owner the inconvenience and time of organizing his private life himself. Ultimately, the “smart home” is supposed to take the consumer’s duly standardized conduct of life out of his hands and make it entirely the money-making final point of the capitalist supplier’s productive efforts.

However, the advance of the century in this area is expected by the — accordingly excited — business world to be the business opportunity of giving the car a double existence: as a purchasable or rentable “smartphone on wheels” and as the service of steering it “from A to B” that is included in the price or, better for both sides, paid for extra on the pay-per-use model. Once developed, installed umpteen times and called up billions of times, such a self-driving algorithm would be a fine source of income alongside the old crates constantly being newly manufactured and IT-upgraded; customers won’t mind paying as they have long since lost the “driving pleasure”^[+] once promised anyway.

III. The capital advance and its yield

The leading IT companies and their imitators make a big impression — not only on professional investors — with the tremendous market value they have achieved, and the tremendously short times it took them to achieve it: from garage to global concern in just a few years. According to the way they see themselves and the widespread image of “Silicon Valley,” such a career really only requires two things. First, a bunch of highly motivated whizzes — “the best brains” — who sit around in a relaxed atmosphere and conduct power-free discourse to tackle the “natural wealth” of the modern world, the raw material “data,” coming up with clever ways of using it, and writing down the appropriate lines of code for the most effective computers in the world. And second, some receptive patrons who invest “venture capital” and turn young startups into “unicorns” with a market value of at least one billion US dollars in the twinkling of an eye. Whoever brings in the most money the fastest proves he’s the best. The best of the best feel called and chosen to make the world a better place by networking the world’s population ever further and thereby earning the funds that requires.

That is not the whole story.

1. The state’s preparatory efforts: protecting intellectual property and creating a whole lot of infrastructure

What this narrative fails to mention is — among other things — the equally tremendous preparatory efforts that imperialist state powers make for the IT industry to avail itself of and thoroughly take for granted.

On the one hand, the IT experts’ best ideas are worthless unless the state turns them into exclusively available goods, into *intellectual property*. So the first thing free thinkers and developers or their clients worry about is getting patent protection for every bit of program code emerging from the R&D department to prevent their valuable commodity from falling into the hands of real or potential competitors. This is especially important when it is not a matter of marginally improving existing programs that are already protected, or closing security gaps — which is probably the poorly paid bulk of these experts’ so proudly touted intellectual work dedicated to progress — but of actually offering a new service to capitalists or end users. For this really to pay off, the targeted

customers are the totality of possible users, whose willingness to pay is definitely limited. Only the large number of customers can turn the prices charged to individual ones (for another information or mediation service or for saving not yet adjusted business expenses) into the massive amount of money the effort is aiming for. That is why the hyperactive think tanks of the technology sector need legal protection for their intellectual property not only on the territory where their national authority has its patent office for ensuring the exclusivity of essentially universal R&D products for an appropriate fee. This industry's business home is, from the outset and most decidedly, the world market. IT companies claim it as their operating area as a matter of course, demanding that the required legal conditions apply worldwide. Convinced they are making the world a better place, they needn't care how much and what kind of globally assertive *force* that requires. But they know very well who to direct their demands to. To them, their state's imperialism is a free gift that is undoubtedly at their disposal.

On the other hand, the state power in charge of Silicon Valley, along with a few other public powers, has created the material prerequisites that enable IT companies to operate successfully on their business model. The infrastructure, the internet itself, was set up by the world power USA for well-known strategic reasons and made so functional that the private business world could get their services onto it. It was state investment, not least for military interests, that gave rise to the necessary technological resources, particularly ever better computers. The same applies to the extremely focused kind of cleverness bearing its fruit in the research departments of private companies today, and especially to what has been named "artificial intelligence" by people not needing any insight into how the mind really understands something.

2. Assisting in the birth: speculative bubbles

No matter how generous the state is, of course, firms in this sector still have to advance capital. It has to be a considerable sum because offering a new type of service firstly is expensive to develop, secondly must be impressed on a basically worldwide clientele, and thirdly must recommend itself by being available everywhere and any time. These considerable expenses are matched by the equally great promises of the industry's particular business model. For this industry does not make money only by producing useful goods or services. What has made and continues to make the leading companies so great is how they serve the exquisite need of this world's capitalists to increase the productivity of their property by cheapening and accelerating its turnover. They perform this service on the basis of it being used by a great number of capitalist enterprises. After all, the platforms for advertising, sales, mediation, etc., are only as attractive as their reach, and the reach only as great as the quantity of firms to be found there. So it is not merely the industry's goal, but a necessary condition for its success, to make its offers indispensable to the targeted clientele — this again being crucially dependent on covering the mass of prospective customers to the greatest possible extent. It therefore lies in the nature of this sphere to try to monopolize the business interest that the service provider is out to serve. That of course drives up the necessary

advance and is another factor making a large number of customers a condition for the company's success. This is all the more so because the individual price for a service offered to accelerate capital turnover is initially out of all proportion to the expense required to establish the service. Conversely, however, it also offers a great opportunity for the electronic product to prove to be a fantastically rich source of money on the model of "one commodity — infinitely *many buyers* on a permanent basis." So the business model of building a transcontinental railroad or ocean-linking canal is actually being reincarnated in cyberspace, the not unimportant difference being that the possibilities of accelerated capital turnover are not limited to overcoming banal geographical obstacles, but rather might not even all be known yet and have certainly not been exhausted. At any rate, that is the hope of the latecomers inspired by Facebook's or Amazon's career who are working out new services that may be more attractive to commercial customers than the existing ones. So there is the lure, an irresistible one to activists of the trade, of a business that *could* be a hit but might also be, or even most probably is, no good at all. And this business definitely has to get through an unpredictably long dry spell after the initial investment, when there is hardly any revenue. If the latecomer is lucky he can finally make money by selling to an established competitor or a bunch of speculators.

After all, the money is there; that is the good news that fits this tricky situation. In the run-up to the first "dotcom crisis," the prospect of uncertain but potentially enormous profits was already all too attractive for the kind of speculation that is the order of the day on the world's stock exchanges anyway. And one crisis later, the community busy in this area have an extraordinary amount of funds to invest, on the one hand, but find extraordinarily few investment opportunities, on the other. The reason for both is the same, and once again crucially involves the political power of the leading global economic powers. Their central banks tried to ward off or overcome the financial crisis that started in America twelve years ago, by compensating for the nearly total loss in value of the credit that had been speculatively multiplied. They "flooded the markets" with liquidity originating solely by state decree. This meant rescuing the banking sector of the capitalist world but largely crippling its normal loan and investment business. The way they have subsequently proceeded to manage the recession with their policy of low, zero, and finally negative interest rates, they have put the owners of the rescued financial assets in a predicament they can find no other way out of than to bet even more on all kinds of speculative stock-market deals as a source of profit. On the other hand, those in charge and their rescue policy have created the certainty that there will be no lack of state-decreed liquidity in the event of a new crisis either. So there is no shortage of "venture capitalists." Their greed for investment-worthy risks logically increases the fictitious capital-value of the objects of speculation, in this way making the speculation on enrichment come true without the financed startups having to have made any great profit. And when leading politicians invoke "digitization" as the burning, all-important

issue for the future of their business location and the world in general, they are putting their official stamp on this typical finance-capitalist insanity.

IV. *v:[‡]* The use of the labor factor

“Digitization,” like every major advance in bourgeois economic or social life, gives rise to controversial debates about whether it is a curse or a blessing. The main matter of dispute in this case is the loss of jobs that has already taken place or is above all being predicted. Their disappearance is welcomed only by a few fans of capitalist business success, while on the whole it is regretfully accepted, like every advance, as a development that cannot be stopped anyway. Concerns are raised but immediately watered down and corrected since there will in any case be new jobs as well. How many nobody can say, but they will certainly be ones involving new tasks and requirements, presumably for the most part in the intellectual department. In order to cope with them, personnel whose jobs are in danger and the next generation of employees will need to be retrained or qualified in a new way for the global labor market. Otherwise there will not only be deserted factories but also countless unemployed alongside a shortage of skilled workers.

There is certainly something to this prognosis. After all, it does not just come from futurologists but from representatives of capital, which has the power to *make* the unknowable future; especially the future of the *labor factor* and those who embody it. So the politico-economic logic determining how this future will be shaped is not too much of a mystery.

1. The ideal of a factory without workers, and the reality of saving labor costs

Since the capitalist mode of production has taken off pretty much everywhere, entrepreneurs have been acting as employers, which they want to be seen as a positive thing, i.e., as a service to the people who need to be employed by them. At the same time, they struggle and go to some expense to require as few employees as possible, replacing workers with machines and automating production. The ideal of a factory that no longer needs human labor may be unrealistic but is not plucked out of thin air. It lies in the logic of capitalist producers’ endeavor to make themselves independent of the will and skill of their employees — people who have an opposite interest to theirs in working in their company and getting paid for it.

This is where the services of IT companies can help; especially with regard to an annoying contradiction. For it is not only the production process itself that requires wage laborers. Consistently (re)structuring this process according to the principle of maximum return, financial accounting, the purchase and sales business, etc. — in modern capitalism all of this has become a task often requiring more support staff than the actual production of goods, which has long since been thoroughly rationalized. But in this auxiliary area, too, even in the age of data processing outsourced to clouds, the

purpose that capitalist employers are pursuing when they continually rationalize workplaces anew is by no means to eliminate the labor factor from the company. Replacing office work by computing machines, personnel by automatons, always follows a *calculation* relating *sums of money* to each other. It is not enough to introduce improved, maybe even self-acting and self-learning means of production that are entirely the property of the capitalist and have neither interests of their own nor a will to be commanded with money. Their procurement must *pay off*, on the simple principle that they save more wages or get more money-valued performance out of the paid workforce throughout their operating life than they cost on the means-of-production market. This is, after all, the decisive criterion for the capitalist use of wage labor in general, and therefore also for any measure aimed at reducing the need to pay wages. The wages that are paid — whether for office work or manual labor, for operating machines or bookkeeping — must pay off, must bring in a surplus of wealth. And the businessman determines whether the result suffices by the ratio of his profit to his capital advance as a whole, the expenditures for means of production and for employees: by his rate of profit. That is why he pays for ‘living’ labor as long as it acts as a factor of his enrichment and cannot be replaced by ‘dead’ equipment at a profit. And this may well lead him to stop experimenting with automating work steps and have employees fill old or new gaps in the production process that can be closed more effectively and cheaply by — as a rule especially low-paid — wage labor than by robots.

This calculating use of labor and technology is the means for capitalist businessmen to compete against each other. With their technological advances and accordingly expensive investments, they wage an increasingly fierce battle not against the workers, but at the workers’ expense against their own kind, contesting each other’s economic success and ultimately making it hard for each other to survive.

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A brief digression on the hot question of whether capitalism is not about to start functioning completely automatically

A world without wage labor would be great. Capitalism without wage labor would be no capitalism. Factory halls and offices full of robots and with no work stress: that is and will remain a matter of communist economic planning. Capitalism, in its creative way, combines automating business processes, its brand of labor-saving progress, with a quantitatively and qualitatively progressive subjection of almost everyone to various, predominantly mindless and miserably paid work tasks.

The first reason for this lies in the peculiar nature of what wealth is in this world. Life in capitalism is of course not really based on credit cards but on material goods — use-values that have to be constantly reproduced. But what counts as wealth, as everyone knows, is the money to be paid for these goods and, conversely, to be earned by selling them. What is not so generally known, although no one fails to notice it somehow, is that there is a *peculiar social relationship* existing objectively, as an object, in money. Money is property in its pure form, at the same time in a definite

quantity. It is civilian power to get hold of a quantum of useful goods that originally belong to their producer and that themselves, as shown on their price tag, represent a quantum of money they have to be transformed into for their producer to be actually enriched. Money is quantified power get hold of others' property, a power that has to be earned by working to create money value for others. Or the other way around: labor contributes to the process of reproducing society's material life in capitalism too, but its socially valid result contradicts this. For the result of labor in capitalism is the excluding, private power to possess the product, whatever form it may take, this power being qualitatively objectified and quantitatively determined in a sum of money.

As mentioned above, this is no secret. Even the trivial functionalist definition of money as a means of exchange will, on closer examination, reveal the same thing about the peculiar nature of societal wealth in the bourgeois world. The exchange that the whole business is about is a matter between persons who are exercising against each other the power of disposal immanent in their well-earned property and effectively realized in money. They are appropriating what has previously belonged to someone else, and giving in exchange some property of their own that exists in a punchy sum of money.

The second reason to be mentioned is this. The relationship that money mediates between people as property owners exists universally, across the board and without alternative only because it does not exist in this elementary form at all, but as the power to lay hold of goods in a much more specific sense. The means for creating useful goods and procuring money with them are themselves property, belonging to an exclusive minority of *capital* owners. The great majority have no chance of creating any appreciable property for themselves, but in this world they do not have to. They can sell themselves. For some money — payment for work — a person without means of his own lets capitalist employers put him to use. As their instrument, he is made to function for a production process that — see above — creates property in the form of money as its socially decisive product. This is — of course! — not the personal property of the worker utilized, but rather property that belongs to his paying user. The human instrument has done his part and earned his wage by creating not simply useful stuff, but money-valued ownership of it; the monetary value created is the property of the capitalist running the business. So the capitalist is using money not as the power to get hold of an equivalent value it pays for, but as the power to get hold of a propertyless human *source* of money. Or the other way round again, society reproduces itself in an overall process based on a division of labor in capitalism, too. But the division of labor that matters *here* is that between those who have the power, exercised with money, over the rank and file working in some way or other, who own everything socially produced, and base their power over societal labor on that, and those who are “dependently employed” in this way. With their labor they reproduce

the power of the command exercised over them and, in dependence on that, reproduce themselves.

The whole point about the social nature of monetary wealth, and it ruling the world as they say, is thus this relation: between the capital side, which increases its money-measured quantum of property by buying the labor of others to “create value,” i.e., produce new property, for itself — and the opposite side, the bought labor, which produces its property-creating effect on, and using, others’ property and for the owner of that property. All the capital side’s efforts to automate production and make paid labor superfluous serve — and have from the beginning served! — to shift the quantitative relation between the money expended for money-creating labor and its product in its own favor. Unfortunately, one cannot expect that it will end up, more or less inadvertently, abolishing wage labor and thus sawing off the branch it is sitting on.

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2. Smart workforces and an internationally networked working class

When IT companies contribute their services to capital turnover by facilitating contact between company and market, setting up or improving an automated production process, and coordinating production processes across companies, this will undoubtedly make a lot of wage labor superfluous, both in the area of capitalist bureaucracy and in the area of production in the narrower sense. It lies in the logic of what is called rationalization to eliminate mainly those tasks that are already schematic enough to be easily performed by automatons, those that are — too — costly in wages according to the company’s competitive calculation, and especially those that are both. Digital progress does not contribute any new criteria. But it helps a great deal to identify and deal with such weak points in a company’s cost and performance structure. The fact that new jobs are also being created is no surprise: setting up and maintaining digital services requires personnel; and an examination of existing structures in a company will always show that some tasks, whether complicated or simple, are tricky to automate and human beings with their specific adaptability and modest wage payment are the better solution business-wise.

IT companies offer a further-reaching qualitative benefit for keeping labor costs down by establishing and opening up a *global labor market* that is extremely easy to take advantage of. This has been well prepared for by decades of world trade, capital mobility, and labor migration. There is no region left in the world where the masses can subsist outside the capitalist mode of production with its technology, its requirements for work performance, its converting the population into a wage-dependent labor force, and its kind of remuneration. And where capitalism prevails, its commercial proponents, capitalist multinationals with their specific demand for labor, are on the spot — or if not, then only due to a business calculation. It has become more effective

and cheaper for capital to be omnipresent since companies in the IT sector have provided every capitalist demand for personnel with internet access to the world's population, provided the latter have an internet connection, which Facebook and cheap mobile phones have helped a lot with. It has become easy for cosmopolitan businessmen to have people in need of an employer compete according to their own business criteria, and to decide on their employment, across all borders. The internet allows the widest variety of services not needing to be performed at one's own company location to be called up directly; there is no shortage of digitally networked people who are desperate to earn even the lowest pay.

The latter circumstance is exploited in particular by IT firms themselves. When it comes to jobs, they like to shine with the top salaries they pay their top people, namely, those who provide them with some intellectual property that can be turned into money many times over. That money still basically goes to the business owner or employer — successful company founders with a career from garage to global corporation are prominent but rare — who might allow his in-house inventors to participate in the stock market prices generated by bold speculators. However, the top performance of these firms — and above all their top-notch profits — regularly involve an army of laborers, a lot of whom are click workers performing the great load of mindless routine work on the internet that is required for everyday business. Such work can still be had more cheaply from literate citizens of the world than from automatons, which would first have to be made artificially intelligent rather than being reduced to an extremely limited use of the mind.

This is how the IT industry gives its achievement of “digitization” the good reputation of not merely eliminating jobs that no longer fit with “the digital age” anyway, but of providing people with work. The well-known qualities of this work, in particular the low price of services directly available via the internet, do indeed contribute to capital continuing to seek human stopgaps in the globalized value-creation process and easily finding them — among a truly internationalized working class that is constantly being automatically weeded through and adapted to suit requirements in real time.

Translators' Notes

[*] C' and M' designate C and M (the value of commodities and money) increased by surplus-value (Marx, *Capital* Vol II).

[†] “Freude am Fahren”: BMW branding slogan.

[‡] v stands for the portion of capital represented by labor-power that has become variable capital (Marx, *Capital* Vol I).

Authors' Notes

[1] Due to its mass alone, the incoming user feedback data — collected and carefully stored — is of interest for all kinds of purposes that those willing to pay might have; e.g., political opinion polling, or even projects not yet defined, so that it can be turned into money many

times. This is one reason why “data” — no matter what kind — has acquired the absurd reputation of itself virtually being modern wealth.

[2] People are now tossing around the ideal of a model of the company that completely mirrors its business-relevant operations right down to the physical production processes: a “digital twin” of the firm that “*can and does often exist before there is a physical entity*” (quoted from “Digital twin,” Wikipedia).

[3] Necessary and helpful remarks clarifying the previous and following sections can be found in issue 2-16 of this journal in the article “*Industrie 4.0: Ein grosser Fortschritt in der Vernetzung und in der Konkurrenz um die Frage, wem er gehört*” [“*Industry 4.0: A great advance in ‘networking’ and in the competition over who this advance belongs to*”] (untranslated). The first section of this article already deals in detail with “*the fourth industrial revolution and its systemic contradictions*.”

[4] This state of affairs has practically been achieved by the way globally active companies run small-scale farming. See “*Zum Beispiel Bayer-Monsanto. Von der Monopolkonkurrenz in der Landwirtschaft*” [“*The example of Bayer-Monsanto. On monopoly competition in agriculture*”] in issue 2-19 of this journal (untranslated).

For nationalists in government or armchairs, the main problem with this competition is the nationality of the cloud operators, i.e., whether one’s nation is becoming dependent, whether indispensable conditions for its economic success are being dominated by foreigners. For Europe, and especially the Germans, it is close to catastrophic that four foreign firms are dividing up the world market for this service among themselves, as mentioned. The Europeans want to build up an alternative, already prenatally christened “digital Airbus” on the model of Europe’s successful competition against the USA in aircraft construction. They see a great opportunity in developing a special offer for networking “classic” industries in an unprecedented way.

More on this and what follows can be found in the article recommended above, “*Industrie 4.0*” in issue 2-16, and also in the essay following this one, “*Zu einigen neueren Fortschritten in der Konkurrenz der Staaten*” [“*On some recent advances in the competition of states*”] (untranslated).